

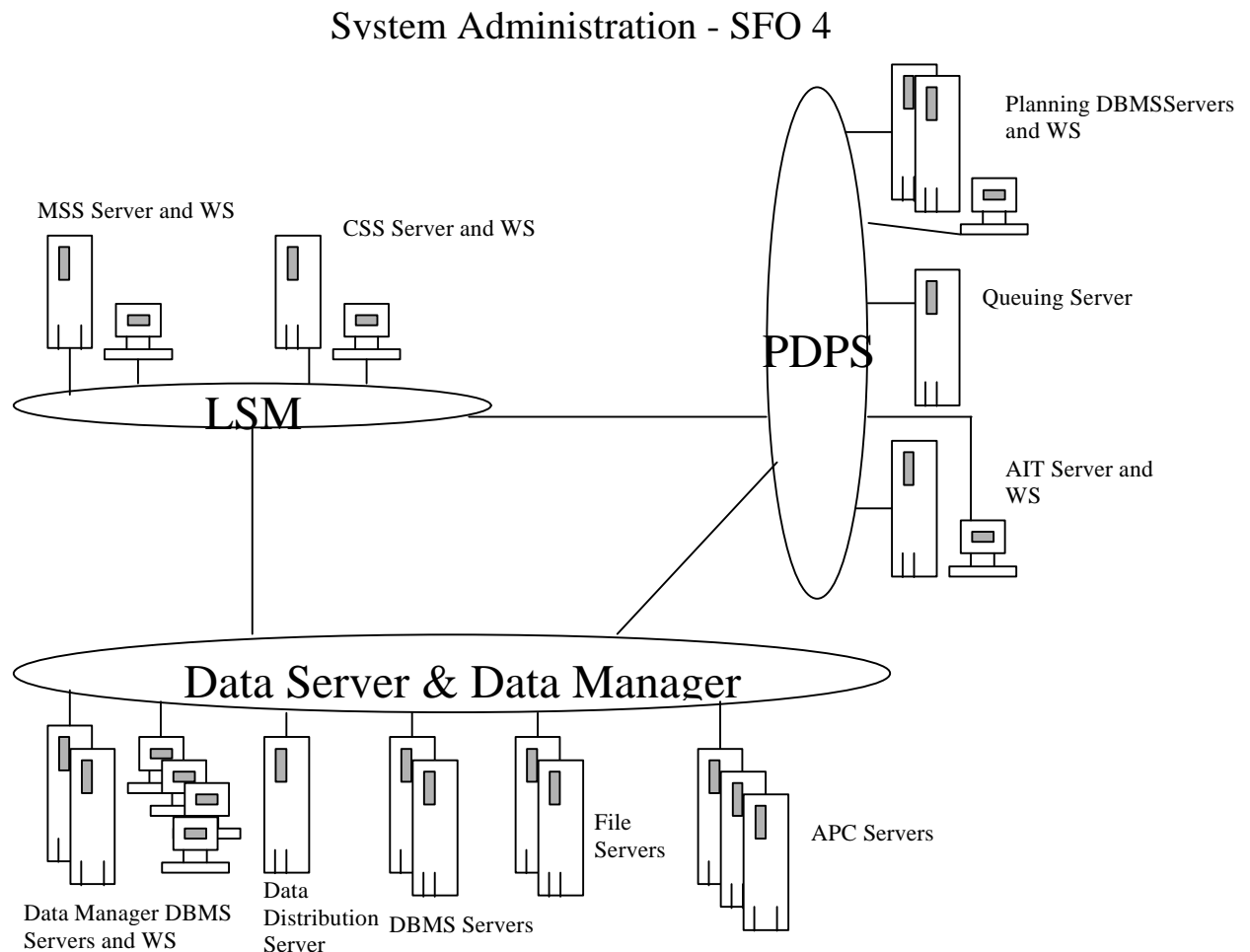
System Administration - SFQ4

This test deals with the system administration functions within the ECS. This test does not necessarily have mission critical requirements associated with it, however, EGS I&T personnel feel that these functions need to be tested and verified to ensure that DAAC personnel can perform their duties within the system.

Test Objectives:

- to verify user administration type functionality
- system monitoring functionality
- SMC communication and monitoring functionality
- inter-DAAC functionality

Test Configuration:



Participants and Support Requirements:

Participants:

M&O Support at the DAACs

Communications:

Voice - Telephone

Data - N/A

IP addresses: TBS

Equipment and Software :

Hardware: Data Manager Server, CSS Server, MSS Server, Queuing Sever, AIT Server, APC Server, FSMS Server, DBMS Server, Data Distribution Server, Document Server

Software: Tivoli, HP OpenView, Email, User Registration Tool, User Account Manager, Order Tracking Tool, FTP

Test Tools:

Tivoli, HP OpenView, XRunner

Test Data:

None

Test Case Descriptions:

SFQ4.1 Data Base Administration

This test verifies the administration functions of backing up the database, exporting and importing data, monitoring database disk space, usage, fragmentation, and performance associated with the various databases in the system. Directory Service functionality is demonstrated and verified.

The positions used in this test are DAAC System Administrator (SA) and DAAC Database Administrator (DBA).

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC DBA wkstn	Login to the MSS server t1mss07 as a DAAC DBA.	The login prompt for the server should be displayed.	
1.002	DAAC SA wkstn	Login to the MSS server t1mss07 as a DAAC SA.	The login prompt for the server should be displayed.	
2.001	DAAC DBA wkstn	Shutdown the external users database mss_db.	A message is displayed that the database has been shutdown.	
2.002	DAAC DBA wkstn	Export the data in the external users database mss_db to dump file \$ECS_HOME/OPS/CUSTOM/dbms/MSS/dumpMMDDYY.exp	A message is displayed that the data has been exported.	

Step ID	Station	Actions	Results (Expected)	Comments
2.003	DAAC DBA wkstn	Analyze the export log file \$ECS_HOME/OPS/CUSTOM/logs/dumpMMDDYY.log, and verify that all data was exported	The log should not contain any occurrences of data could not be exported.	
2.004	DAAC DBA wkstn	Clear the data from mss_db	All data is removed from the user database.	
2.005	DAAC SA wkstn	Backup the dump of the external users database \$ECS_HOME/OPS/CUSTOM/dbms/MSS/dumpMMDDYY.exp to tape	A message is displayed stating that the backup was successful.	
2.006	DAAC SA wkstn	Analyze the backup log file \$ECS_HOME/OPS/CUSTOM/logs/backupMMDDYY.log to verify the dump file was backed up successfully	The backup log should not contain any occurrences of errors.	
2.007	DAAC SA wkstn	Delete the dump file of the external users database \$ECS_HOME/OPS/CUSTOM/dbms/MSS/dumpMMDDYY.exp from the dump directory.	The dump file is no longer in the dump directory.	
2.008	DAAC SA wkstn	Restore the external users database dump file dumpMMDDYY.exp from backup tape.	A message is displayed stating that the restore was successful.	
2.009	DAAC DBA wkstn	Import the external users database from the restored dump file dumpMMDDYY.exp.	A message is displayed stating that the data has been successfully imported.	
2.010	DAAC DBA wkstn	Analyze the restore log \$ECS_HOME/OPS/CUSTOM/logs/restoreMMDDYY.log and verify that no messages were received stating that a user was not restored.	The log should not contain errors that the database or any individual user could not be restored.	

Step ID	Station	Actions	Results (Expected)	Comments
2.011	DAAC DBA wkstn	Start User Registration GUI by typing: >startMsAcRegUser GUI.csh	The User Registration main screen is displayed.	
2.012	DAAC DBA wkstn	Attempt to create a new user with two characters in the name.	The user should not be created without a valid username. An error message should be displayed.	
2.013	DAAC DBA wkstn	Attempt to create a username with fifteen characters in the Name box.	The user should not be created without a valid username. An error message should be displayed.	
2.014	DAAC DBA wkstn	Attempt to create a user typing a different password in the Confirm box.	The user should not be created. An error message should be displayed stating something to the effect of the passwords not matching.	
2.015	DAAC DBA wkstn	Attempt to create a user without entering a password.	The user should not be created without a password. An error message should be displayed stating that a password must be entered.	
2.016	DAAC DBA wkstn	Attempt to create a user with access to fakesystem (a non-existent system).	The user should not be created without a valid database name. An error message should be displayed stating that an invalid database name was used.	
2.017	DAAC DBA wkstn	Add the new user to the database specified without assigning permissions or a group.	The new user should be displayed in the list of users.	
2.018	DAAC DBA wkstn	Login to another workstation and attempt to access the external users database as the user that was just created and then logout.	A message should be displayed stating that the user does not have permissions for that database. Try a few databases (all?).	
2.019	DAAC DBA	Delete the user.	The user should not be displayed in the	

Step ID	Station	Actions	Results (Expected)	Comments
	wkstn		list of users.	
2.020	DAAC DBA wkstn	Create a user using all valid information.	A message stating that the user was added should be displayed.	
2.021	DAAC DBA wkstn	Login to another workstation and attempt to use the DAAC Desktop.	A message should be displayed stating that the user does not exist. Try a few databases (all?).	
2.022	DAAC DBA wkstn	Attempt to use the User Desktop.	The system should be accessible.	
2.023	DAAC DBA wkstn	Modify a DAAC operator to ECS User.	The user's information should reflect the modifications made.	
2.024	DAAC DBA wkstn	Exit the User Registration GUI.	The User Registration GUI shuts down.	
2.025	DAAC DBA wkstn	Start the User Registration GUI.	The User Registration main screen is displayed.	
2.026	DAAC DBA wkstn	Verify that the user is reflected as an ECS User under the user's information.	The modifications should be reflected in user's information.	
2.027	DAAC DBA wkstn	Login to another workstation as the new user and attempt to access the DAAC Desktop.	Error messages should be displayed stating that the user has insufficient privileges.	
2.028	DAAC DBA wkstn	Delete user created during test from database.	The user should not be displayed in the list of users in the Users Manager window.	
2.029	DAAC DBA wkstn	Attempt to login to the system as the user that was deleted.	Access should be denied.	
2.030	DAAC DBA wkstn	Exit the ECS Desktop and logout.	ECS Desktop is shut down and Operator is logged out of workstation.	
2.031	DAAC DBA wkstn	Login as a regular user (non-Operator).	User is logged in.	
2.032	DAAC DBA wkstn	Start the ECS Desktop by typing: >daac.	The ECS Desktop is displayed.	
2.033	DAAC	Start the User	The User	

Step ID	Station	Actions	Results (Expected)	Comments
	DBA wkstn	Registration by double clicking on the User Registration button.	Registration main screen is displayed.	
2.034	DAAC DBA wkstn	Attempt to add a user.	A message should be displayed stating that the new user was not created because of insufficient permissions. The new user should not appear in the list of users.	
2.035	DAAC DBA wkstn	Attempt to delete a user.	A message should be displayed stating that the user was not deleted because of insufficient permissions. The user should still appear in the list of users.	
2.036	DAAC DBA wkstn	Exit the User Registration GUI.	The User Registration GUI shuts down.	
2.037	DAAC DBA wkstn	Exit the ECS Desktop.	The ECS Desktop shuts down.	
3.001	DAAC DBA wkstn	Logout of workstation by typing: >kdestroy >exit.	The login prompt should be displayed.	
3.002	DAAC DBA wkstn	Logout of DBA workstation by typing: >kdestroy >exit.	The login prompt should be displayed.	

Requirements to be Verified:

ESN-0490#B ESN-0510#B ESN-0610#B

SFQ4.2 System Monitoring

This test verifies that the system monitors the various hardware and critical software processes connected to the system. The system is monitored using Tivoli and HP OpenView. The tester halts processes and turns off servers and hardware units to ensure the system is monitoring and responding to the various failures. The elements being monitored in this test include:

- Data Manager Server
- CSS Server Hardware
- CSS Server
- MSS Server Hardware

- MSS Server
- Queuing Server
- AIT Server
- APC Server
- FSMS Server
- DBMS Server
- DATA Distribution Server
- Document Server

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC Computer Operator's wkstn	Login to workstation and t1mss07 by typing: >Username: <username> >Enter password: <password> >rlogin t1mss07	The operating system prompt is displayed.	
1.002	DAAC Computer Operator's wkstn	Check status of ovwdb, trapd, ovtopmd, ovactiond, snmpCollect, and netmon by typing: >ps -ef grep ov >/usr/bin/ps -ef grep trap >/usr/bin/ps -ef grep snmp >/usr/bin/ps -ef grep netmon	The status of ovwdb, trapd, ovtopmd, ovactiond, snmpCollect, and netmon should be displayed.	
1.003	DAAC Computer Operator's wkstn	If the processes in 1.002 are not running, start the processes.		
1.004	DAAC Computer Operator's wkstn	Start HPOpenView.	HP OpenView Windows should be displayed.	
2.001	DAAC Computer Operator's wkstn	Locate the icons for the Data Manager, CSS, MSS Queuing, AIT, APC, FSMS, DBMS, Data Distribution, and Document servers.	The icons should be green indicating that the server is operational.	Steps 2 - 10 should be performed on each of the above listed servers.
2.002	DAAC	Halt the associated	The appropriate	Remote login to each

Step ID	Station	Actions	Results (Expected)	Comments
	Computer Operator's wkstn	processes of the server being tested: INS - EcInReqMgr, EcInGran, EcInPolling, EcInGUI; SDSRV - DsSrSdsrv; STMGT - DsStArchiveServerMain, DsStStagingDiskServerMain, DsStStagingMonitorServerMain, DsStFtpIngestServerMain, DsStFtpDisServerMain, DsStD3TapeServerMain; DDIST - DsDdRequestMgrMain; IOS/ADSRVR - EcIoAdServer; DMS/DDICT - EcDmDictServer; V0 GW - EcDmV0ToEcsGateway; DAR GW - EcGwDARServer, (DAR Comm.Gateway); SBSRV - EcSbSubServer, EcSbEventServer; PLS/DPS - EcPISubMgr, EcDpJobMgmt; CLS - EcCIDtUserProfileGateway; MSS - EcAcOrderManager MsAcManager	server should shut down. A message should be posted to the operator stating that the server is down.	server being tested will be needed.
2.003	DAAC Computer Operator's wkstn	Look for a message in the Browser.	A message indicating that the server is down should be written to the log file.	
2.004	DAAC Computer Operator's wkstn	Locate the icon corresponding to the server that is down.	The icon should be red indicating that the server is down.	

Step ID	Station	Actions	Results (Expected)	Comments
2.005	DAAC Computer Operator's wkstn	Select Diagnose from the pull down menu.	A list of options should appear.	
2.006	DAAC Computer Operator's wkstn	Select Network Connectivity.	A list of options should appear.	
2.007	DAAC Computer Operator's wkstn	Select Demand Poll.	The operations should time out.	
2.008	DAAC Computer Operator's wkstn	Execute a request specific to the server being tested.	The request should failover to one of the other appropriate servers.	
2.009	DAAC Computer Operator's wkstn	Bring the server back up.	The server should come up to full operational status.	
2.010	DAAC Computer Operator's wkstn	Locate the icon corresponding to the server.	The icon should be green indicating that the server is operational.	
2.011	DAAC	Connect new node to network.	If autolayout is enabled, the new symbol should appear on the submap. If autolayout is disabled the new symbol should appear in the New Object Holding Area.	This node is to be provided by the DAAC.
2.012	DAAC Computer Operator's wkstn	Start Inventory GUI and update/verify system-wide inventory with the new node's hardware, software configuration.	The new information in the system-wide inventory should be displayed. ??? Manual or Automatic??????	

Step ID	Station	Actions	Results (Expected)	Comments
2.013	DAAC Computer Operator's wkstn	Take down the ECS system by stopping the following servers: INS - EcInReqMgr, EcInGran, EcInPolling, EcInGUI; SDSRV - DsSrSdsrv; STMGT - DsStArchiveServerMain, DsStStagingDiskServerMain, DsStStagingMonitorServerMain, DsStFtpIngestServerMain, DsStFtpDisServerMain, DsStD3TapeServerMain; DDIST - DsDdRequestMgrMain; IOS/ADSRVR - EcloAdServer; DMS/DDICT - EcDmDictServer; V0 GW - EcDmV0ToEcsGateway; DAR GW - EcGwDARServer, (DAR Comm.Gateway); SBSRV - EcSbSubServer, EcSbEventServer; PLS/DPS - EcPISubMgr, EcDpJobMgmt; CLS - EcCIDtUserProfileGateway; MSS - EcAcOrderManager MsAcManager	All servers in the ECS are stopped.	
2.014	DAAC Computer Operator's wkstn	Verify in HP OpenView that the icons representing the ECS servers are red	All icons representing the ECS servers should be red.	
2.015	DAAC Computer Operator's	Startup the ECS system INS - EcInReqMgr, EcInGran, EcInPolling,	The ECS servers are started with no errors.	

Step ID	Station	Actions	Results (Expected)	Comments
	wkstn	EcInGUI; SDSRV - DsSrSdsrv; STMGT - DsStArchiveServerMain, DsStStagingDiskServerMain, DsStStagingMonitorServerMain, DsStFtpIngestServerMain, DsStFtpDisServerMain, DsStD3TapeServerMain; DDIST - DsDdRequestMgrMain; IOS/ADSRVR - EcIoAdServer; DMS/DDICT - EcDmDictServer; V0 GW - EcDmV0ToEcsGateway; DAR GW - EcGwDARServer, (DAR Comm.Gateway); SBSRV - EcSbSubServer, EcSbEventServer; PLS/DPS - EcPISubMgr, EcDpJobMgmt; CLS - EcCIDtUserProfileGateway; MSS - EcAcOrderManager MsAcManager		
2.016	DAAC Computer Operator's wkstn	Verify in HP OpenView that the icons representing the ECS servers are green	All icons representing the ECS servers should be red.	
3.001	DAAC Computer Operator's wkstn	Close HP OpenView. Click on File -> Exit.	The operating system prompt should appear.	
3.002	DAAC Computer Operator's	Logout of workstation: >kdestroy >exit	The login prompt should appear.	

Step ID	Station	Actions	Results (Expected)	Comments
	wkstn			

Requirements to be Verified:

EOSD4035#B SMC-2505#B

SFQ4.3 Email Log File

This test verifies that the email log file is updated with all information being sent into the system.

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC Computer Operator's wkstn	Login to workstation.	The operating system prompt should appear.	
2.001	DAAC Computer Operator's wkstn	Stop the following processes: EcInPolling, EcInGUI, DsSSStagingDiskServerMain, EcCIDtUserProfileGateway, and MsAcManager	The servers listed are shutdown.	This should be done for a few processes on a few different servers.
2.002	DAAC Computer Operator's wkstn	Cause communication error by shutting down the Landsat 7, DAR, and V0 gateways and unplugging the network cable from the Science Data server t1acs03.	The gateways	A few errors should be caused on a few different servers.
2.003	DAAC Computer Operator's wkstn	FTP a file	No error messages should appear.	
2.004	DAAC Computer Operator's wkstn	Verify that the file appears in the directory is was put into and that it is accessible.	A directory listing should show an entry for the FTP'd file.	

Step ID	Station	Actions	Results (Expected)	Comments
2.005	DAAC Computer Operator's wkstn	Start Event Log Browser.	The correct message should appear in the log file with the correct date, time, and error or event.	
2.006	DAAC Computer Operator's wkstn	Verify each action was logged.	The correct message should appear in the log file with the correct date, time, and error or event.	
3.001	DAAC Computer Operator's wkstn	Logout of workstation.	The login prompt should appear.	

Requirements to be Verified:

None

SFQ4.4 Order Tracking

This test verifies that the system operators can use the order tracking GUI to track and review the current status of a user's order.

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC Computer Operator's wkstn	Login to workstation.	The operating system prompt should appear.	
2.001	DAAC Computer Operator's wkstn	Start the Order Tracking GUI.	The Order Tracking GUI should be displayed	
2.002	DAAC Computer Operator's wkstn	Enter an invalid order number in the status section.	A message should be displayed stating that the order number is invalid.	
2.003	DAAC Computer	Enter the order number of an order	The status of the specified order	

Step ID	Station	Actions	Results (Expected)	Comments
	ter Operat or's wkstn	that has not yet been sent.	number should be displayed.	
2.004	DAAC Compu ter Operat or's wkstn	Verify that the information showing is for the correct order and that the information is correct.	The status should state that the order has not yet been sent.	
2.005	DAAC Compu ter Operat or's wkstn	Enter the order number of an order that has been sent.	The status of the specified order number should be displayed.	
2.006	DAAC Compu ter Operat or's wkstn	Verify that the information showing is for the correct order and that the information is correct.	The status should state the order was sent and the date that the order was sent.	
3.001	DAAC Compu ter Operat or's wkstn	Close the Order Tracking GUI.	The operating system prompt should appear.	
3.002	DAAC Compu ter Operat or's wkstn	Logoff of the workstation.	The login prompt should appear.	

Requirements to be Verified:

None

SFQ4.5 Mode Management

This test verifies that the Operator can issue startup and shutdown commands and monitor the applications and processes initiated by a mode activation call.

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC	Login to workstation.	The HP OpenView	

Step ID	Station	Actions	Results (Expected)	Comments
	Computer Operator's wkstn		windows should appear.	
1.002	DAAC Computer Operator's wkstn	Verify that the ECS system is in OPS mode: >ps - ef grep OPS	The following servers should have OPS in the path: INS - EcInReqMgr, EcInGran, EcInPolling, EcInGUI; SDSRV - DsSrSdsrv; STMG - DsStArchiveServerMain, DsStStagingDiskServerMain, DsStStagingMonitorServerMain, DsStFtpIngestServerMain, DsStFtpDisServerMain, DsStD3TapeServerMain; DDIST - DsDdRequestMgrMain; IOS/ADSRVR - EcIoAdServer; DMS/DDICT - EcDmDictServer; V0 GW - EcDmV0ToEcsGateway; DAR GW - EcGwDARServer, (DAR Comm.Gateway); SBSRV - EcSbSubServer, EcSbEventServer; PLS/DPS - EcPISubMgr, EcDpJobMgmt; CLS - EcCIDtUserProfileGateway; MSS - EcAcOrderManager MsAcManager	
2.001	DAAC Computer Operator's wkstn	Startup the test mode environment for the specified workstation by starting the servers specified in previous step using		

Step ID	Station	Actions	Results (Expected)	Comments
		TS1 as mode.		
2.002	DAAC Computer Operator's wkstn	Verify that the workstation is in operational and test mode environment.	The workstation status should display a message stating that the test and operational environment is in execution.	
2.003	DAAC Computer Operator's wkstn	Shutdown the test mode for the specified workstation.		
2.004	DAAC Computer Operator's wkstn	Verify that the workstation has returned to operational mode.	The workstation status should display a message stating the operational environment is in execution.	
2.005	DAAC Computer Operator's wkstn	Startup the training mode environment for the specified workstation.		
2.006	DAAC Computer Operator's wkstn	Verify that the workstation is in operational and training mode.	The workstation status should display a message stating that the training and operational environment is in execution.	
2.007	DAAC Computer Operator's wkstn	Shutdown the training mode for the specified workstation.		
2.008	DAAC Computer Operator's wkstn	Verify that the workstation has returned to operational mode.	The workstation status should display a message stating the operational environment is in execution.	
3.001	DAAC Computer Operator's wkstn	Close HP OpenView.	The operating system prompt should appear.	
3.002	DAAC Computer	Logoff of workstation.	The login prompt should appear.	

Step ID	Station	Actions	Results (Expected)	Comments
	ter Operat or's wkstn			

Requirements to be Verified:

None

SFQ4.6 SMC System Monitoring

This test case tests the monitoring of hardware and software status to determine their operational states, including:

- On-line
- Failed
- In maintenance
- In test mode
- In simulation mode

For each performance parameter, the SMC established levels of thresholds will be tested, including:

- On/off
- Pass/fail
- Various levels of degradation

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC Compu ter Operat or's wkstn	Login to workstation.	The operating system prompt should appear.	
1.002	DAAC Compu ter Operat or's wkstn	Start HPOpenView.	The HP OpenView GUI should appear.	
2.001	DAAC Compu ter Operat or's wkstn	Note the color of the icon corresponding to the server used in the test.	The color should be green indicating that the server is operational.	The server to be used in the test should be fully operational.
2.002	DAAC Compu	Create error conditions not to	When the polling has cycled through the	

Step ID	Station	Actions	Results (Expected)	Comments
	ter Operator's wkstn	exceed the set thresholds, to put various servers in each of the following modes: Failed, maintenance, test, and simulation.	icon(s) should not change.	
2.003	DAAC Computer Operator's wkstn	Create error conditions to meet the set thresholds, to put various servers in each of the following modes: Failed, maintenance, test, and simulation.	When the polling has cycled through the icon(s) should change to reflect the appropriate thresholds being met.	
2.004	DAAC Computer Operator's wkstn	Create error conditions to exceed the set thresholds, to put various servers in each of the following modes: Failed, maintenance, test, and simulation.	When the polling has cycled through the icon(s) should change to reflect the appropriate thresholds being exceeded.	
2.005	DAAC Computer Operator's wkstn	Change the level of threshold for performance parameter.	Threshold should reflect new level.	
2.006	DAAC Computer Operator's wkstn	Simulate performance under threshold.	Display should not change and no messages should be generated.	
2.007	DAAC Computer Operator's wkstn	Simulate performance beyond level of threshold.	Display should reflect level of threshold being exceeded and a message should be generated.	
2.008	DAAC Computer Operator's wkstn	Shutdown server.	Display should reflect level of threshold being exceeded and a message should be generated.	
3.001	DAAC Computer Operator's wkstn	Exit HP Open View and logoff workstation.	Workstation login prompt should appear.	

Requirements to be Verified:

SMC-3305#B SMC-3370#B SMC-3375#B

SFQ4.7 System Recovery

This test verifies that the system can recover from a system failure due to:

- 1) a loss in the integrity of the data
- 2) catastrophic violation of the security system

An attempt to breach the system security is monitored to test the system's ability to detect and respond to the violation.

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC Computer Operator's wkstn	Login to workstation.	The operating system prompt should appear.	
2.001	DAAC Computer Operator's wkstn	Access element security controlled data as a valid user, element, and process.	The correct information should be recorded in the element security controlled data audit trail.	
2.002	DAAC Computer Operator's wkstn	Attempt to access element security controlled data as an invalid user, element, and process.	Access should not be granted and the correct information should be recorded in the element security controlled data audit trail.	
2.003	DAAC Computer Operator's wkstn	Analyze element security controlled data audit trail for record of accesses in steps 2.001 and 2.002.	The correct information should be recorded in the element security controlled data audit trail.	
2.004	DAAC Computer Operator's wkstn	FTP a file and attempt to modify data while in transit.	Attempt to modify the data should fail.	
2.005	DAAC Computer	Attempt to capture authentication information.	Attempt to capture authentication information should	

Step ID	Station	Actions	Results (Expected)	Comments
	Operator's workstation		fail.	
2.006	DAAC Computer Operator's workstation	??Simulate a security violation. ??	LSM should generate recovery actions, isolate the compromised area, and disconnect input and output of the compromised area. Automated initiation of recovery procedures by SMC should occur. SMC response should take no longer than 5 minutes.	
2.007	DAAC Computer Operator's workstation	Attempt to access isolated compromised area and input.	Attempt of access should fail.	
2.008	DAAC Computer Operator's workstation	Attempt to send output from isolated area output.	Attempt to send output should fail.	
2.009	DAAC Computer Operator's workstation	Reconnect isolated area.	All communications to and from the reconnected area should resume.	
2.010	DAAC Computer Operator's workstation	Analyze detailed and summary security compromise reports.	Security reports should contain correct information for simulated security compromise.	
3.001	DAAC Computer Operator's workstation	Logoff workstation.	Login prompt should be displayed.	

Requirements to be Verified:

EOSD2510#B EOSD2990#B ESN-1380#B SMC-0350#B SMC-5350#B SMC-5355#B
SMC-5365#B SMC-8880#B

SFQ4.8 **Unscheduled System Shutdown**

This test demonstrates the system's ability to respond to an unscheduled system shutdown (such as power outage or system abort) and the ability of the system to be restarted from this state.

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC Computer Operator's wkstn	Login to the server.	An operating system prompt should appear.	
1.002	DAAC Computer Operator's wkstn	Start HP OpenView.	The HP OpenView windows should appear.	
2.001	DAAC Computer Operator's wkstn	Shutdown the following subsystems in order: CIDM, PDPS, Ingest, DSS, MSS, other license servers, DCE, CSS, Clearcase, Automount, NIS Master, DNS Master.	The system should shutdown successfully.	
2.002	DAAC Computer Operator's wkstn	Startup the following subsystems in order: DNS Master, NIS Master, Automount, Clearcase, CSS, DCE License, any other license, MSS, DSS, Ingest, CIDM.	The system starts up and resumes all communications and services.	
2.003	DAAC server	Abort the server.	The PROM prompt should appear.	Steps 2.003 - 2.007 should be repeated for all servers to be tested.
2.004	DAAC server	Reboot the server, while server is coming back up, interrupt boot process.	The PROM prompt should appear.	
2.005	DAAC server	Reboot the server.	The server should come back up and display a login prompt.	

Step ID	Station	Actions	Results (Expected)	Comments
2.006	DAAC Computer Operator's wkstn	Start HP OpenView.	The HP OpenView windows should appear.	
2.007	DAAC Computer Operator's wkstn and Server being tested	Check the status of the servers and network.	The icons should be green indicating that the server is operational.	
2.008	DAAC Computer Operator's wkstn	Disrupt the power to the MSS server	The MSS server will turn off.	
2.009	DAAC Computer Operator's wkstn	Restart the servers that must be restarted after the MSS server has been interrupted	The servers that need to be restarted come up with no errors.	
2.010	DAAC Computer Operator's wkstn	Bring up the MSS server	The MSS server comes up with no errors.	
3.001	DAAC server	Close HP OpenView.	The operating system prompt should appear.	
3.002	DAAC Computer Operator's wkstn and Server being tested	Logout of the workstation.	The login prompt should appear.	

Requirements to be Verified:

EOSD2440#B EOSD3000#B

SFQ4.9 FTP

This test case tests the ftp functionality between servers at remote DAACs. A datafile is FTP'd from a server at one DAAC to each of the other DAAC's. During separate transfers the originating server and target server are each shutdown.

The position used in this test are DAAC Computer Operator.

Test procedures:

Step ID	Station	Actions	Results (Expected)	Comments
1.001	DAAC Computer Operator's wkstn	Login as DAAC Computer Operator Operator.	Successful login.	
1.002	DAAC Computer Operator's wkstn	Bring up ECS Desktop.	ECS Desktop is displayed.	
2.001	DAAC Computer Operator's wkstn	FTP datafile to the following DAACs and shutdown the target server while file is being transferred: ASF, EDC, NSIDC, PO (JPL), GSFC, LaRC, ORNL, SEDAC	FTP is interrupted and an error message is displayed.	
2.002	DAAC Computer Operator's wkstn	Access datafile on originating server.	The datafile should be accessible and not corrupted.	
2.003	DAAC Computer Operator's wkstn	FTP datafile to the following DAACs and shutdown originating host while datafile is being transferred: ASF, EDC, NSIDC, PO (JPL), GSFC, LaRC, ORNL, SEDAC	The originating server is down.	
2.004	DAAC Computer Operator's wkstn	Startup originating server and access datafile used in the FTP attempt.	The datafile should be accessible and not corrupted.	
2.005	DAAC	FTP datafile to the	The FTP completes	

Step ID	Station	Actions	Results (Expected)	Comments
	Computer Operator's wkstn	following DAACs: ASF, EDC, NSIDC, PO (JPL), GSFC, LaRC, ORNL, SEDAC	and terminates successfully.	
2.006	DAAC Computer Operator's wkstn	Access FTP'd datafile on target server.	The datafile should be accessible and not corrupted.	
3.001	DAAC Computer Operator's wkstn	Exit from ECS Desktop.	ECS Desktop exits successfully.	
3.002	DAAC Computer Operator's wkstn	Exit from workstation.	Successful logoff.	

Requirements to be Verified:

None

Appendix A Requirements

Req Id		Requirement Text	
DADS1300#B		Each DADS shall display all faults to the system operators.	
DADS1310#		Each DADS shall track and report to the SMC problems such as missing or corrupted files requiring restoration or regeneration of data.	
DADS1320#		Each DADS shall provide to the SMC fault isolation information at the DADS system and subsystem levels.	
DADS1330#		Each DADS shall provide information to support fault isolation between the DADS and other ECS unique elements and external interfaces to the LSM.	
DADS1340#B		Each DADS shall use tools to analyze system performance.	
DADS1540#B		In case of corruption or catastrophic failure, capabilities for recovering the file directory shall be provided.	
DADS1630#B		At each DADS tools shall be provided for recovery of data from failed media and devices.	
DADS2950#B		In case of failure of the automated system, archive media must be capable of being manually mounted at each DADS.	
EOSD2440#B		Database integrity including prevention of data loss and corruption shall be maintained.	
EOSD2510#B		ECS elements shall maintain an audit trail of: <ul style="list-style-type: none"> a. All accesses to the element security controlled data b. Users/processes/elements requesting access to element security controlled data c. Data access/manipulation operations performed on security controlled data d. Date and time of access to security controlled data e. Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes f. Detected computer system viruses and worms g. Actions taken to contain or destroy a virus 	
EOSD2990#B		The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system.	
EOSD3000#B		The ECS shall provide for security safeguards to cover unscheduled system shutdown (aborts) and subsequent restarts, as well as for scheduled system shutdown and operational startup.	
EOSD4035#B		The ESN shall have no single point of failure for	

Req Id		Requirement Text	
		functions associated with site specific network databases and configuration data.	
ESN-0490#B		The ESN shall provide a name-to-attribute mapping Directory Service at a minimum.	
ESN-0510#B		The directory function shall be able to respond to requests for information concerning named objects, either physical or logical, so as to support communications with those objects.	
ESN-0610#B		The ESN shall include multiple Directory Service Agents (DSAs) which shall be collectively responsible for holding or retrieving all directory information which is needed by ECS.	
ESN-1380#B		The ESN shall provide countermeasures for the following security threats related to data communications: <ul style="list-style-type: none"> a. modification of data (i.e., manipulation) while in transit over the network b. disclosure of authentication information c. degradation in network or processing resource performance through denial of service attack d. Impersonation of authentication credentials or privileges. 	
SMC-0350#B		The SMC shall have the capability of responding security compromises within a maximum of five minutes.	
SMC-2505#B		The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element.	
SMC-3305#B		The LSM shall monitor its element's hardware, and scientific and system software status to determine their operational states including, at a minimum: <ul style="list-style-type: none"> a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode 	
SMC-3370#B		For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum: <ul style="list-style-type: none"> a. On/off b. Pass/fail c. Various levels of degradation 	
SMC-3375#B		For each limit checked parameter, the LSM (including those thresholds including, at a minimum: <ul style="list-style-type: none"> a. On/off b. Pass/fail c. Various levels of degradation 	
SMC-5350#B		The SMC shall have the capability to initiate recovery procedures in response to a detected security compromise.	

Req Id		Requirement Text	
SMC-5355#B		The LSM shall isolate the compromised area, detach the compromised input I/O, and the compromised areas output I/O until the compromise has been eliminated.	
SMC-5365#B		The LSM shall generate recovery actions in response to the detection of compromises.	
SMC-8880#B		<p>The SMC shall have the capability to generate detailed and summary security compromise reports indicating security compromises of ground resources and facilities, including at a minimum:</p> <ul style="list-style-type: none"> a. Security compromise type and description b. Time of occurrence c. Cause of security compromise d. Impact on system e. Status of security compromise resolution f. Security compromise statistics g. Results of security compromise risk analysis 	

Appendix B Acronyms

ADSRVR	Advertising Server
AIT	
APC	
ASF	
CLS	
CSS	
DAAC	
DBA	Database Administrator
DBMS	
DCE	
DDICT	
DDIST	Data Distribution
DMS	
DNS	Domain Name Service
DPS	
ECS	EOSDIS Core System
EDC	
EGS	EOSDIS Ground System
FSMS	
FTP	File Transfer Protocol
GSFC	
GUI	Graphical User Interface
GW	Gateway
HP	Hewlett Packard
I&T	Integration and Test
INS	
IOS	
JPL	
LaRC	
LSM	
M&O	
MSS	
NIS	
NSIDC	
OPS	Operational mode
ORNL	
PDPS	
PLS	
PO	
SA	System Administrator
SBSRV	Subscription Server
SDSRV	Science Data Server
SEDAC	
SMC	
STMGT	Storage Management Server
TBS	To Be Specified
TS1	Test mode
V0	Version 0
WS	Workstation